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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/783,471	02/20/2004	Peter Aronstam	644-27679-USCP	7478

24923 7590 01/06/2006  
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HOUSTON, TX 77057-1130

EXAMINER

TSAY, FRANK

ART UNIT	PAPER NUMBER
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3672

DATE MAILED: 01/06/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

10/783,471

Applicant(s)

ARONSTAM ET AL.

Examiner

Frank S. Tsay

Art Unit

3672

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 20 February 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-51 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 22-30 and 47-51 is/are allowed.
- 6) ☒ Claim(s) 1-6, 10-12, 16, 21, 31-33, 37-39, 42 and 46 is/are rejected.
- 7) ☒ Claim(s) 7-9, 13-15, 17-20, 34-36, 40, 41 and 43-45 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 20 February 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date <u>2/20/04-3/25/05</u> | 6) <input type="checkbox"/> Other: _____  |

**DETAILED ACTION**

***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-6, 10-12, 16, 21, 31-33, 37-39, 42, 46 are rejected under 35 U.S.C. 102(b) as being anticipated by US 4,744,426 to Reed.

Reed discloses an apparatus and method of reducing hydro-static pressure at a drill bit shown specifically in Fig. 1, which comprises all of the claimed structure including a drill string 21 having a drill bit 14 at its end; a source of drilling fluid supplied under pressure into the drill string is shown in the direction 25 and returned up-hole via an annulus.

The active pressure differential device (APD) is met by the centrifugal or fan type pump which adds energy to lift return fluid up-hole so as to reduce downhole hydrostatic pressure at the drill bit (col. 7, line 36-col. 8, line 19). The drive assembly is anticipated by a mud motor, which powers the upper rotating shaft member 23, which in turn drives the APD device (col. 4, lines 9-34). The sealing assembly is met by the seal ring 80, which provides at least partial barrier between the supply fluid and the return fluid (see Claim 7, and col. 5, lines 33-43). The claimed speed converter is met by the gear systems shown in Figs 6, 6A and 7, which provides a speed conversion between the drive assembly and the APD device from a first speed to a second selected speed at the APD. Lacking the specifics of the claimed features, the claimed “controller” in the

Art Unit: 3672

respective claims is anticipated by the operator at the surface, who controls the APD operations.

***Allowable Subject Matter***

Claims 7-9, 13-15, 17-20, 34-36, 40, 41, 43-45 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Claims 22-30 and 47-51 are allowed.

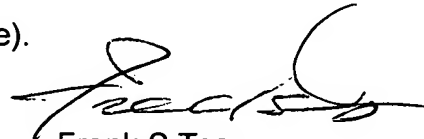
***Conclusion***

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Richey, Messenger, and Hosier et al all show apparatus and methods to reduce fluid pressure in a wellbore.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Frank S. Tsay whose telephone number is (571) 272-7038. The examiner can normally be reached on Monday thru Friday, 7:30am-5:00 pm, 2nd Friday off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David J. Bagnell can be reached on (571)272-6999. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

A handwritten signature in black ink, appearing to read 'Frank S Tsay', with a large, stylized flourish at the end.

Frank S Tsay  
Primary Examiner  
Art Unit 3672

12/28/05